March 16, 1943. C. J. YOUNG 2,314,027

FACSIMILE TRANSMITTER

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Fig. 1.

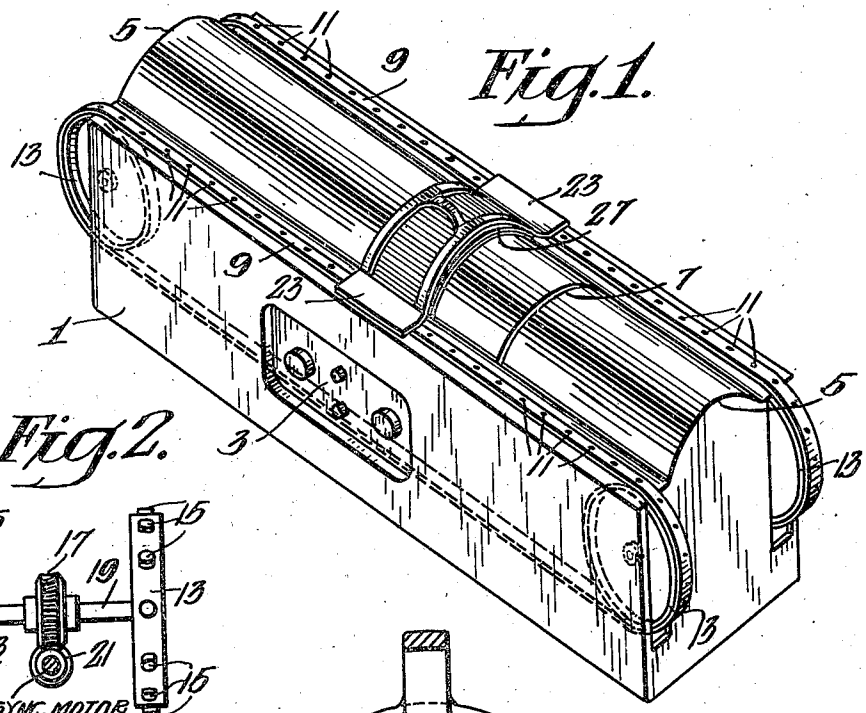


Fig. 2.

Fig. 3.

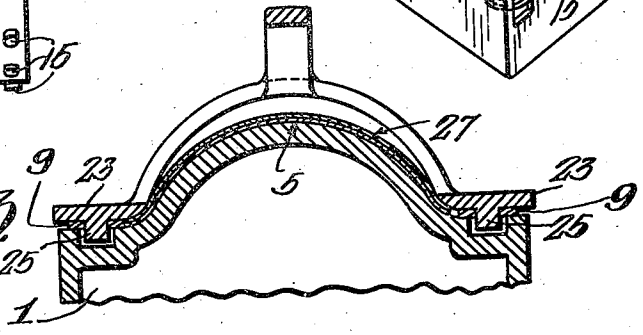
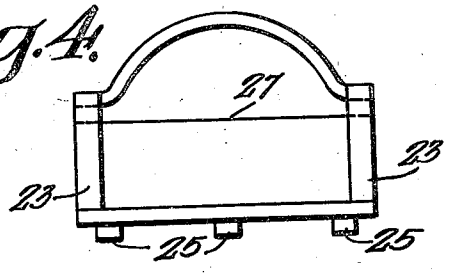


Fig. 4.



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FACSIMILE TRANSMITTER

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6 Claims. (Cl. 178—11)

This invention relates to facsimile transmitters and more particularly to facsimile scanners and it has for its primary object to provide an improved subject copy carrier for a facsimile transmitter.

In facsimile transmitters of the type in which the subject copy is fastened to a drum which is adapted to rotate in synchronism with the drum in the facsimile receiver, it is necessary to stop the machine each time a new message or picture is to be inserted in the transmitter to be converted into a train of signal representative thereof.

As a result of this inconvenience, it has been proposed to employ an optical system which is designed to rotate inside a transparent cylinder over which the subject copy is positioned. The drum supporting the subject copy is then adapted to move slowly in a direction transverse to the direction of scanning caused by the movement of the optical system such that both directions of scanning are provided. The slow movement of the subject copy makes it possible to change the subject copy without having to stop the rotation of the optical system. Such a method and means is shown and described in Alexanderson Patent 1,792,264, dated February 10, 1931. Such a facsimile scanner is adapted to scan a subject copy from a continuous sheet or tape by causing the supply or subject copy to continuously pass the position of the rotating optical system.

It often becomes desirable, however, to scan subject copy which is imprinted upon individual message blanks or individual sheets which may be of different size. It is, therefore, another object of this invention to provide a carrier for a facsimile scanner in which a number of subject copies of different sizes may be placed upon the subject copy carrier by the operator at any one time.

According to this invention, a guide member along which the subject copy is to move contains a slit therein through which the subject copy is to be scanned and a pair of continuous perforated belts are adapted to move along the guide member such that a plurality of carriers may be made to engage the drive belts and maintain the individual sheets of subject copy in continuous contact with the guide member as it passes the slit through which it is to be scanned.

Other and incidental objects of this invention will be apparent to those skilled in the art from a reading of the following specification considered in connection with the accompanying drawing in which

Figure 1 is a perspective view of one form of this invention in which a subject copy carrier is part of the facsimile transmitter enclosure,

Figure 2 is a fragmentary view showing the drive belt drive mechanism,

Figure 3 is a sectional view of the subject copy carrier, and

Figure 4 is a side elevation view of the subject copy carrier.

Figure 1 shows a facsimile transmitter enclosure 1, which may contain a control panel 3 in one side thereof. The top surface of the enclosure 1 has a guide member 5 extending the length of the enclosure 1 and having a radius of curvature such that a rotating optical system of the type disclosed by the aforesaid Alexanderson patent, for example, may be freely rotated therein. The guide member 5 supports the subject copy such that the optical system remains a uniform distance from each point of the subject copy under scansion. The guide member 5 is preferably of a smooth and polished opaque material and contains therein a slit 7 through which the subject copy is to be scanned. It may, however, be of transparent material, or the slit 7 may be at the end of the guide member.

Running the length of the guide member 5 and adjacent the sides of the guide member 5 are the drive belts 9 which are preferably of a non-resilient material, such as steel, and contain therein holes or perforations 11 positioned at equal distances along their length. Continuous chains may also be used in place of belts.

At both ends of the enclosure 1 and positioned such as to engage the continuous belts 9, there are placed pulleys 13 which are shown in more detail together with their drive mechanism in Fig. 2. Pulleys 13 have extensions or beads 15 which are adapted to engage the perforations 11 in the drive belts 9 such as to prevent any slippage of the drive belts 9 on the pulleys 13. A gear 17 is mounted on the shaft 19, connecting two of the drive pulleys, and the gear 17 is adapted to engage a worm gear 21 which is connected to the synchronous motor drive, which synchronous motor may also drive the optical system if it is desired.

In Figure 3 there is shown a view of the message carriers which are adapted to be conveniently removed by merely lifting them from the guide member surface. A frame 23 contains a number of pins 25 which are spaced such as to engage the perforations 11 in each of the drive

belts 9. A flexible web member 27 is fastened at each end inside the frame 23 in such a way as to press the sheet of subject copy smoothly against the guide member 5, the pressure being brought to the best value by making frame 23 of the proper weight. This web member 29 should be of leather, or other similar material having a high coefficient of friction against paper, so that movement of the frame will easily slide the subject copy above the guide surface 5.

The operator may place a number of sheets of subject copy upon the guide member 5 and place on each sheet of subject copy a carrier 23 and, as the carrier supporting the subject copy passes the slit 7, the subject copy is scanned and, when the scanning of any subject copy sheet is complete, the carrier and sheet of subject copy are allowed to proceed to the end of the guide member and, as the leading pins 25 of the carrier approach and come in contact with the idler pulleys 14, they are disengaged from the drive belts and both the carrier and subject copy are allowed to drop off the machine and into a suitable container which may be placed at the end thereof.

It is therefore possible for the operator to place a number of messages or pictures upon the facsimile transmitter at one time without interrupting the scanning of any of the subject copies. Thus, one operator can easily service a considerable number of facsimile transmitters.

While one system for carrying this invention into effect has been indicated and described, it will be apparent to one skilled in the art that this invention is by no means limited to the particular organization shown and described but that many modifications may be made without departing from the scope of this invention as set forth in the appended claims.

I claim as my invention:

1. In a facsimile transmitter, subject copy driving means including in combination a guide member defining a path along which said copy is to move, perforated drive belts adjacent said path, a frame engaging said belts at said perforations and supporting a flexible web member for sandwiching said subject copy between said frame and said guide member to maintain the copy in contact with said guide member.

2. In a facsimile transmitter, subject copy driving means including in combination a guide member over which said copy is to move and through which said copy is to be scanned, continuous belts along said guide member, a frame engaging said belts by force of gravity and supporting a flexible member for sandwiching said subject copy between said frame and said guide member to maintain the copy in contact with said guide member.

3. In a facsimile transmitter, a housing for a scanner having in one surface thereof a guide member along which said copy is to be scanned, continuous belts along said member, a frame to engage said belts and to support a flexible web like member along the total length of its edges adjacent said belts, said web like member adapted to sandwich said subject copy between said web like member and said guide member.

4. In a facsimile transmitter, subject copy driving means, including in combination a guide member over which said copy is to move and through which said copy is to be scanned, a continuous belt adjacent said guide member, and a plurality of frames, each supporting a flexible web member for sandwiching said copy between said frame and guide member, each of said frames to engage said belt and to move said subject copy along said guide member.

5. In a facsimile transmitter, subject copy driving means including, in combination, a guide member over which said copy is to move and across which there is positioned an opening through which said copy is to be scanned, a continuous belt along said guide member, a frame engaging said belt and supporting a flexible member adapted to maintain the copy in contact with said guide member, and means for disengaging said frame from said belt after said copy has passed said opening.

6. In a facsimile transmission system, subject copy driving means including in combination a guide member over which said copy is to move and through which said copy is to be scanned, a continuous belt along said guide member, a frame engaging said belt and supporting the flexible member to maintain the copy in contact with said guide member by the weight of said frame and said flexible member and means comprising a pulley engaging said belt to disengage said frame from said belt after said copy has passed the scanning position.

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